

Amendment under 37 CFR 1.111
Application No. 09/849,437
November 18, 2002

REMARKS

By this amendment, claims 1, 3, 6, 7, 10 and 11 have been amended and new claim 12 has been added to the application. Currently, claims 1-12 are pending in the application.

Claims 1-11 are rejected under 35 USC 112, second paragraph, as being indefinite. Regarding claims 1, 7 and 11, the Examiner stated that "farther from the operator" was unclear as to what position defined the operator as being farther from the headstock. By this amendment, claims 1, 7 and 11 have been amended to delete the phrase "farther from the operator".

The Examiner also stated that in claim 7, it was unclear as to what position defined the operator as being closer to the tool posts. By this amendment, claims 1, 7 and 11 have been amended to delete the phrase "closer to an operator".

It is therefore respectfully submitted that by these amendments, claims 1-11 are now clear and definite and this rejection should be withdrawn.

Claims 1, 7, 4 and 8 were rejected under 35 USC 102(b) as being anticipated by Matthey. Regarding claims 1 and 7, the Examiner believed that Matthey teaches in Figs. 1-4 a machine

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tool comprising a fixed bed (1), a pair of tool posts (17 and 22), carriages (14 and 19) and a headstock base (6). Regarding claims 4 and 8, the Examiner believed that Matthey teaches that one of the carriages is disposed on a left side and the other is disposed on the right side of the fixed bed in Fig. 1.

These rejections based on Matthey are respectfully traversed in view of the amendments to the claims and the remarks below.

The present invention relates to a machine tool which comprises a fixed bed 2, a pair of tool posts 4 and carriage 3 on which are mounted each of the tool posts 4 as shown in Figs. 1 and 2. The machine tool also includes a headstock base 10 having the headstock 5 disposed thereon. The headstock and the headstock base are structured and arranged so as to be movable between a workpiece machining position A and a workpiece loading and unloading position B as described on page 3, line 5 - line 10 of the specification. The workpiece loading and unloading position B allows easy workpiece loading and unloading. A chip collecting opening 2d' is provided in the fixed bed 2 between the carriages 3 and the headstock 5 when the headstock 5 is positioned in the workpiece machining position A. The fixed bed 2 also includes a tunnel 2d formed therein that extends along the

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longitudinal length of the machine tool. The chips that have fallen into the chip collecting opening 2d' can be collected through the tunnel 2d as described on page 9, lines 20-23. In the present invention, the workpiece loading and unloading operations are significantly improved by changing the position of the headstock base with the headstock for replacing the workpiece.

Claims 1 and 7 have been amended to recite "a headstock base having said headstock disposed thereon, the headstock base being structured and arranged so as to be movable between a workpiece machining position where the workpiece can be machined at a second side of said fixed bed and a workpiece loading and unloading position where the workpiece can be loaded and unloaded adjacent the first side of said fixed bed".

Matthey relates to a machine tool having two opposed coaxial spindles intended to receive workpieces. A frame 1 is provided with a first pair of slideways 6 arranged parallel to the axis of the spindle 3. On the slideways 6 is mounted a headstock 7 carrying a spindle 8 provided with a workpiece-carrying chuck 9. A motor 10 drives the spindle 8. The arrangement is such that the two spindles 3 and 8 are coaxial, their common axis being

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represented by reference numeral 11. Moreover, the headstock 7 is movable back and forth along the slideways 6 for moving the chuck 9 of the spindle 8 towards and away from the chuck 4 of the spindle 3, to effect a workpiece transfer.

Electronic control means act on the motors 5 and 10 for synchronizing, at least temporarily, the spindles 3 and 8 so that they rotate at the same speed, but an opposite sense, seen from their front face, to transfer the workpieces. The workpieces are provided for instance from a bar 13 passing through the spindle 3, from the chuck 4 onto the chuck 9. These features are discussed in column 1, line 60 - column 2, line 10.

However, Matthey does not disclose that the headstock base is structured and arranged so as to be movable between a workpiece machining position where the workpiece can be machined at a second side of said fixed bed and a workpiece loading and unloading position where the workpiece can be loaded and unloaded adjacent the first side of said fixed bed.]

depending on something that is not clear of structure how is it structured and arranged what structural features defines the headstock base to cause the headstock to be movable

For these reasons, it respectfully submitted that claims 1, 4, 7 and 8 are allowable and this rejection should be withdrawn.

Claims 2, 3, 5, 6 and 9-11 were rejected under 35 USC 103(a) as being unpatentable over Matthey in view of Kosho et al. The

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Examiner believed that Matthey disclosed many of the features of the claimed invention but acknowledged that Matthey did not show the chip collecting opening and a tunnel formed in the fixed bed. The Examiner believed that Kosho et al. taught a cut materials discharging space 20 in Figs. 1 and 2 that allowed discharges of materials. The Examiner then stated that it would have been obvious to incorporate a chip collecting opening and a tunnel that receives cut materials which are discharged during cutting processing.

Claim 11 has been amended to recite, and newly added claim 12 recites, "a chip collecting opening being disposed in said fixed bed between said respective carriages and said headstock (and being open when said headstock is positioned in the workpiece machining position and being closed when said headstock is positioned in the workpiece loading and unloading position".)

In addition to the features missing from Matthey as discussed above, Matthey also does not disclose that the chip collecting opening and a tunnel formed in the machine tool as recognized by the Examiner.

Applicants respectfully submit that Kosho et al. do not make up for the deficiencies in Matthey.

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Kosho et al. relate to a lathe such as vertical lathe 1 for boring and turning a work. The main spindle-moving-type of lathe 1 comprises a bed body 2 which is identical with the main body thereof. The bed body 2 has one vertical surface or two vertical surfaces, to which a turret is attached. The main body generally gives rigidity to the machine. The bed body 2 generally includes a box-like rear body portions or a rear body portion 3 and box-like front body portions 4 extending from both sides thereof. Each of the box-like front body portions 4 may be formed in a body with the rear body portion 3. The box-like front body portion 4 is formed into a body with rear body portion 3 on the front thereof. The box-like front body portion 4 forms a cut materials discharging space 20 so that it receives cut materials which are discharged during the cutting processing, and the cut materials are discharged into discharging space 20 out of the rear portion or the side portion of base body 2 by a discharging means. The cut materials discharging space 20 is disclosed as being rectangular in the sectional view. The upper portion of the cut materials discharging space 20 opens with an opening 21 formed at the top thereof. The cut materials produced during processing fall directly into the cut materials discharging space

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20 passing through opening 21 together with the cutting oil remains. These features are described in column 6, lines 40-54.

However, Kosho et al. do not disclose a chip collecting ^{is would have been obvious} opening being disposed in said fixed bed between said respective carriages and said headstock] and being open when said headstock is positioned in the workpiece machining position and being closed when said headstock is positioned in the workpiece loading and unloading position.

It is therefore submitted that one of ordinary skill in the art would not have combined Matthey and Kosho et al. to render the claimed invention obvious. Specifically, there is no teaching in either patent disclosing a chip collecting opening being disposed in said fixed bed between said respective carriages and said headstock and being open when said headstock is positioned in the workpiece machining position and being closed when said headstock is positioned in the workpiece loading and unloading position. Further, there is no suggestion in Kosho et al. for combining such a feature into Matthey to render the claimed invention obvious.

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For these reasons, it is believed that Matthey and Kosho et al. do not show or suggest the present claimed features of the present invention.

In view of foregoing amendments and remarks, it is respectfully submitted that the pending claims are allowable over the prior art of record, individually or in combination thereof. Thus, applicants respectfully submit that the application is now in condition for allowance and an action to this effect is respectfully requested.

If there are any questions or concerns regarding this amendment or the remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "R. A. Smith", written over a horizontal line.

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Date: November 18, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Submitted herewith is a marked-up version of the amended claims to show changes made in the foregoing Amendment.

IN THE CLAIMS

Please substitute claims 1, 3, 6, 7, 10 and 11 for the pending claims with the same numbers respectively:

-- 1. (Amended) A machine tool comprising:

a fixed bed;

at least one tool post mounted [on said fixed bed] on a first side [closer to an operator] of said fixed bed [; at least one carriage mounted on] , wherein said at least one tool post being mounted on at least one carriage;

a headstock provided on [a side of] said fixed bed [farther from the operator, so that] , wherein a workpiece disposed in said headstock is subjected to a cutting process by moving at least one of said at least one carriage and said at least one tool post relative to the workpiece; and

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a headstock base having said headstock disposed thereon, the headstock base being structured and arranged so as to be movable between a workpiece machining position where the workpiece can be machined at [a position farther from the operator] a second side of said fixed bed and a workpiece loading and unloading position where the workpiece can be loaded and unloaded [at a position closer to the operator] adjacent the first side of said fixed bed. --

-- 3. (Amended) The machine tool according to claim 2, wherein said fixed bed further comprises a tunnel formed therein, the tunnel communicating with said chip collecting opening and [extends] extending rearwardly away from [the operator] the first side of said fixed bed, whereby chips that have fallen into said chip collecting opening can be collected through the tunnel. --

-- 6. (Amended) The machine tool according to claim 5, wherein said fixed bed further comprises a tunnel formed therein, the tunnel communicating with said chip collecting opening and [extends] extending rearwardly away from [the operator] the first

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side of said fixed bed, whereby chips that have fallen into said chip collecting opening can be collected through the tunnel.

7. (Amended) A machine tool comprising:

a fixed bed;

a pair of tool posts mounted on [said fixed bed on] a first side [closer to an operator] of said fixed bed [; a carriage mounted on] , wherein each of said tool posts being mounted on a carriage;

a headstock provided on [a side of] said fixed bed [farther from the operator, so that] , wherein a workpiece disposed in said headstock is subjected to a cutting process by moving at least one of said [carriages] carriage and said tool posts relative to the workpiece; and

a headstock base having said headstock disposed thereon, the headstock base being structured and arranged so as to be movable between a workpiece machining position where the workpiece can be machined at [a position farther from the operator] a first side of said fixed bed and a workpiece loading and unloading position where the workpiece can be loaded and unloaded [at a position

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closer to the operator] adjacent the first side of said fixed bed. --

-- 10. (Amended) The machine tool according to claim 9, wherein said fixed bed further comprises a tunnel formed therein, the tunnel communicating with said chip collecting opening and [extends] extending rearwardly away from [the operator] the first side of said fixed bed, whereby chips that have fallen into said chip collecting opening can be collected through the tunnel.

11. (Amended) A machine tool comprising:

a fixed bed;

a pair of tool posts mounted on [said fixed bed on] a first side [closer to an operator] of said fixed bed [; a carriage mounted on] , wherein each of said tool posts being mounted on a respective carriage;

a headstock provided on [a side of] said fixed bed [farther from the operator, so that] , wherein a workpiece disposed in said headstock is subjected to a cutting process by moving at least one of said [carriages] carriage and said tool posts relative to the workpiece;

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a headstock base having said headstock disposed thereon, the headstock base being structured and arranged so as to be movable between a workpiece machining position where the workpiece can be machined at [a position farther from the operator] a second side of said fixed bed and a workpiece loading and unloading position where the workpiece can be loaded and unloaded [at a position closer to the operator] adjacent the first side of said fixed bed;

a chip collecting opening being disposed in said fixed bed between said respective carriages and said headstock and being open when said headstock is positioned in the workpiece machining position and being closed when said headstock is positioned in the workpiece loading and unloading position; and

said fixed bed includes a tunnel formed therein, the tunnel communicating with said chip collecting opening and extends rearwardly away from [the operator] the first side of said fixed bed, whereby chips that have fallen into said chip collecting opening can be collected through the tunnel. --